

AMENDMENTS TO THE DRAWINGS

The attached sheets 1-11 of drawings include changes to Figs. 1-7B and 8B-11B and replace all previously submitted versions. The only changes to the drawings are added reference characters as requested by the Examiner. Replacement sheet 1, which includes Fig. 1, replaces the original sheet 1 including Fig. 1. Replacement sheet 2, which includes Fig. 2, replaces the original sheet 2 including Fig. 2. Replacement sheet 3, which includes Fig. 3, replaces the original sheet 3 including Fig. 3. Replacement sheet 4, which includes Fig. 4, replaces the original sheet 4 including Fig. 4. Replacement sheet 5, which includes Fig. 5, replaces the original sheet 5 including Fig. 5. Replacement sheet 6, which includes Figs. 6A and 6B, replaces the original sheet 6 including Figs. 6A and 6B. Replacement sheet 7, which includes Figs. 7A and 7B, replaces the original sheet 7 including Figs. 7A and 7B. Replacement sheet 8, which includes Figs. 8A and 7B, replaces the original sheet 8 including Figs. 8A and 8B. Replacement sheet 9, which includes Figs. 9A and 9B, replaces the original sheet 9 including Figs. 9A and 9B. Replacement sheet 10, which includes Figs. 10A and 10B, replaces the original sheet 10 including Figs. 10A and 10B. Replacement sheet 11, which includes Figs. 11A and 11B, replaces the original sheet 11 including Figs. 11A and 11B.

Attachment: Replacement Sheets 1-11.

REMARKS/ARGUMENTS

1.) Claim Amendments

The Applicant has amended claim 24 and claims 1-23 have been canceled to expedite allowance of the application. Support for this amendment may be found throughout the specification, original claims and drawings. Specifically, support may be found in paragraph [0050], original Fig. 11 (currently Figs. 11a and 11b), the description located on the same sheet as original Fig. 11 and original claims 11-13. No elements have been added to amended claim 24 which were not in the original submitted specification and claims. Consequently, this amendment does not raise issues of new matter.

Applicant further has added new claims 25-36. Support for this amendment may be found throughout the specification, original claims and drawings. Specifically support may be found in paragraph [0035], [0042], [0045] [0047], [0049] and [0051], original claim 15 and Figs. 2, 6A and 6B, as well as Figs. 11A and 11B. No elements are included in new claims 25-36 which were not in the original submitted specification and claims. Consequently, this amendment does not raise issues of new matter. Accordingly, claims 24-36 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

2.) Examiner Objections - Drawings

The drawings were objected to because the drawings were submitted without any reference characters. The corrections to the drawings are attached to this amendment as replacement sheets. Fig. 1 was amended to add reference characters 19, 20 and 20a. Fig. 2 was amended to add reference character 20b. Fig. 3 was amended to add reference characters 3 and 20c. Fig. 4 was amended to add reference characters 22a, 22b, 23a, and 23b. Fig 4 was amended to add reference characters 11a, 11b, 11c and 19. Fig 6A was amended to add reference characters 6 and 14 and move reference character 10. Reference character 10 refers to rod connector as described in original paragraph [0045] and has thus been moved to indicate the correct element on the drawing. The Examiner's approval of the drawing change is respectfully requested. Fig. 6B was amended to add reference characters 6 and 14. Fig. 7A was amended to

add reference characters 13 and 19. Fig. 7B was amended to add reference characters 13 and 19. Fig. 8B was amended to add reference character 9. Figs. 9A and 9B were amended to add reference characters 16 and 22. Figs. 10A and 10B were amended to add reference character 17. Figs. 11A and 11B were amended to add reference characters 18a, 18b, 19a and 19b.

3.) Examiner Objections - Specification

The Examiner objected to the abstract because of informalities. The Applicant thanks the Examiner for his careful review of the specification. In response, the Applicant has replaced the abstract with a new paragraph which complies with the Examiner's objection. The Brief Description of the Drawings was amended to correctly correspond to the numbering of the drawings. The specification was also objected to because of lack of reference characters. In response, the Applicant has amended the specification to add the proper reference characters. The Examiner's consideration of the amendments to the Specification is respectfully requested.

4.) Examiner Objections - Claims

The Examiner objected to claim 5 as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant has canceled claim 5. Therefore, this objection with respect to this claim is deemed to be moot.

6.) Claim Rejections – 35 U.S.C. § 103 (a)

The Examiner rejected claims 1-6, 9, 10, 12-14 and 19-24 under 35 U.S.C. § 103(a) as being unpatentable over Martin (US Patent 5,672,175). In order to expedite allowance of this application, the Applicant has canceled claims 1-23 without prejudice. Therefore, this rejection with respect to these claims is deemed to be moot. The Applicant has amended claim 24 to better define the intended scope of the claimed invention. Support for this amendment may be found throughout the specification, original claims and drawings. Specifically support may be found in paragraph [0050], original Fig. 11 (currently Figs. 11a and 11b), the description located on the same sheet as original Fig. 11 and original claims 11-13.

To the extent the rejection of claim 24 is still applicable to the amended claim, the examiner's rejection is respectfully traversed and reconsideration is requested in light of the

amendment. The applicant believes that the Examiner is either relying on his personal knowledge or by what is "well known in the art" to justify the combination. As the Examiner is aware, in order to preserve the Applicant's right to traverse this assertion in later actions, the Applicant is forced to traverse this assertion in this office action. Thus, the Applicant respectfully traverses the assertion that these limitations are obvious in light of what is "well known in the art" and, as permitted under MPEP § 2144.03, requests that the Examiner cite a reference in support of his position for each rejected claim.

Amended claim 24 requires among other limitations "...and wherein each of said sleeves further comprises an internal bearing layer being made of UHMWPE and an external layer." There is no factual support for the examiner's assertion to the effect that one of ordinary skill in the art would consider appellant's use of the inner sleeve layer being made of UHMWPE in the manner particularly called for in claim 24 to be an "obvious expedient" or "matter of obvious design choice."

Alternatively, if the Examiner is relying on his personal knowledge as the basis for these assertions, The Applicant respectfully objects to the Examiner's use of official notice. Under MPEP § 2144.03, official notice may only be taken of "facts outside of the record which are capable of instant and unquestionable demonstration as being 'well-known' in the art." (Emphasis added). When a rejection is based on facts within the personal knowledge of the Examiner, the facts must be as specific as possible, and the reference must be supported, when called for by the applicant, by an affidavit of the Examiner, which may be subject to explanation by the Applicant. 37 CFR 1.104(d)(2). Pursuant to 37 CFR 1.104(d)(2), the Applicant respectfully requests the Examiner provide such supporting facts and evidence in the form of an affidavit, so that, if necessary, the Applicant may have a chance to explain the reference in later actions.

The noticed fact of substituting a metal alloy or ceramic material in Martin for UHMWPE is not considered to be common knowledge or well known in the art. First, it would not have been obvious to substitute UHMWPE, which has been selected for its strength, durability, low coefficient of friction and general suitability as a bearing surface. The Martin reference does not address an analogous problem (reducing binding and creating debris) as the

claimed invention which would lead one skilled in the art to substitute UHMWPE for metal or ceramic.

Not only does Martin not disclose a sleeve with an internal bearing layer of UHMWPE, the invention in Martin creates the problem that the Applicant tries to solve with his claimed invention. Martin describes a system for preserving a degree of spinal motion, however the system has a rod made of metal alloy (stainless steel or titanium) or composite (Column 8 line 64-66). The rod in Martin fits within a cylindrical bore 11 of sphere 8 (column 9 line 42-43), which is made from a metal alloy or ceramic material. Martin fails to appreciate that metal on metal will bind, and will result in debris, thereby restricting motion and, in general, will result in many of the problems cited in paragraphs [0012-018] of Applicants application. Martin also discloses that the rod 4a is made of metal alloy or composite (as cited above) having three ribs with a triangular cross section (Column 9 lines 65-66). If this rod in Martin were used in combination with the softer UHMWPE, the rod would dig into plastic sleeve which could create a groove in the sleeve or result in debris, thereby restricting motion. Thus, the Martin reference does not address an analogous problem (reducing binding and creating debris) as the claimed invention which would lead one skilled in the art to substitute UHMWPE for metal or ceramic. The Examiner's consideration of the amended claims is respectfully requested.

Amended claim 24 also requires among other limitations "...wherein a gap exists between the at least one bumper and at least one of the two sleeves during flexion of the spine and the at least one bumper directly contacts the at least two sleeves during extension of the spine. Martin fails to disclose such a limitation. Accordingly, Martin does not disclose all of the limitations in amended claim 24. The Applicant, therefore, respectfully requests that the 103 rejection with respect to claim 24 be withdrawn.

Since the applied reference does not teach or suggest (1) a sleeve with an internal layer of UHMWPE or (2) a gap between at least one bumper and at least one of the two sleeves during flexion of the spine and at least one bumper directly contacting the at least two sleeves during extension of the spine, it can not be said as a matter of obvious design choice would have rendered such a construction obvious.

CONCLUSION

Applicant has now made an earnest attempt to place this Application in condition for allowance. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully requests full allowance of Claims 24-36.

Applicant hereby requests continued examination and hereby authorizes the Commissioner to charge the required fees to Deposit Account No. 50-0605 of CARR LLP. Applicant does not believe that any other fees are due; however, in the event that any other fees are due, the Commissioner is hereby authorized to charge any required fees due (other than issue fees), and to credit any overpayment made, in connection with the filing of this paper to Deposit Account No. 50-0605 of CARR LLP.

Should the Examiner deem that any further amendment is desirable to place this Application in condition for allowance, the Examiner is invited to telephone the undersigned at the number listed below.

Respectfully submitted,

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